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GENERAL ELECTRIC COMPANY
ANDREW C HESS
GE AIRCRAFT ENGINES
ONE NEUMANN WAY M/D H17
CINCINNATI, OH 452156301

EXAMINER

EDMONDSON, LYNNE RENEE

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1725

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DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/071,129

Applicant(s)

GROSSMAN ET AL.

Examiner

Lynne Edmondson

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 16-18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 14 and 18 of U.S. Patent No. 6551423. Although the conflicting claims are not identical, they are not patentably distinct from each other because both teach a method of preparing a coated article comprising the steps of furnishing a Ni base superalloy substrate (instant claim 16 and '423 claims 14 and 18), depositing a first material (instant claim 16) which serves as a conditioning material ('423 claim 14), removing the material from the substrate which exposes a new surface (instant claim 18 and '423 claims 14 and 18) and depositing a second (subsequent) coating onto the article, the second coating comprising aluminum (instant claim 16, '423 claim 14). The initial coating may also contain aluminum (instant claim 17, '423 claim 18). However, there is no disclosure of a susceptibility to an SRZ reaction.

It would have been obvious to one of ordinary skill in the art at the time of the invention that although there is no mention of an SRZ reaction, as the materials and process are the same, this susceptibility is presumed to be present.

Claim Objections

3. Claims 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 teaches that removal occurs without cold work. This limitation is taught in claim 1 lines 9-11.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 1725

5. Claims 1-4, 7-11 and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Rigney et al. (USPN 6502304 B2).

Rigney teaches a method of preparing a coated nickel-base superalloy article which is typically susceptible to the formation of a secondary reaction zone, the method comprising the steps of furnishing a Ni-base superalloy (col 4 lines 4-20), having thereon an initial Al-containing coating (6 lines 14-24) which conditions the substrate comprising an initial additive zone and initial diffusion zone (col 4 lines 44-61 and col 7 lines 56-64), removing the initial coating (col 4 line 62 – col 5 line 7 and col 7 line 65 – col 8 line 18) to expose a newly exposed surface with no cold working and depositing a subsequent Al-containing coating (col 8 lines 27-32 and lines 47-53 and figures 5A-5C). The alloy is Rene 6 which comprises more than 4% rhenium (col 4 lines 9-12). The article is heated with the subsequent Al coating to a reaction temperature (to permit diffusion) for the period of time required for diffusion (col 8 lines 31-35). Although it is known to employ Pt in at least one coating, this is optional. The coating can be Pt and Pd free (col 8 lines 27-53). See also Rigney claims 14-20.

6. Claims 1-4, 6, 7 and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Spitsberg et al. (USPN 6551423 B1).

Spitsberg teaches a method of preparing a coated nickel-base superalloy article which is typically susceptible to the formation of a secondary reaction zone, the method comprising the steps of furnishing a Ni-base superalloy (col 3 line 62 – col 4 line 5), having thereon an initial Al-containing coating which conditions the substrate comprising

Art Unit: 1725

an initial additive zone and initial diffusion zone (34, 70) (col 2 lines 45-58, col 4 lines 6-10 and col 4 lines 60-67), removing the initial coating to expose a newly exposed surface with no cold working (col 2 lines 39-44 and col 5 lines 28-47) and depositing a subsequent Al-containing coating (figure 3 and col 5 line 48 – col 6 line 6). The removal of sulfur relieves stress (col 2 lines 39-44). The alloy is Rene 6 which comprises more than 4% rhenium (col 4 lines 1-5). The article is heated with the subsequent Al coating to a reaction temperature (to permit diffusion) for the period of time required for diffusion (col 6 lines 7-35). See also Spitsberg claims 14-20.

7. Claims 1, 4-8, 11-13 and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Connor et al. (US 2003/0021892 A1)

Connor teaches a method of preparing a coated nickel-base superalloy article which is typically susceptible to the formation of a secondary reaction zone, the method comprising the steps of furnishing a Ni-base superalloy (paragraph 16), having thereon an initial Al-containing coating which conditions the substrate comprising an initial additive zone and initial diffusion zone (paragraphs 1, 2, 6, 9, 15 and 16), removing the initial coating to expose a newly exposed surface with no cold working by stripping (paragraphs 20, 21, 24 and 25) in an acid solution (paragraph 31) and depositing a subsequent (replacement) Al-containing coating (paragraphs 9 and 26-28). Stress is relieved through a series of heat treatments where undesirable intermetallic phases are dissolved. The article is heated with the subsequent Al coating to a reaction

Art Unit: 1725

temperature for the reaction period of time (paragraph 31). See also Connor claims 1, 5-7, 9-13 and 16.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Connor et al. (US 2003/0021892 A1) in view of Chen et al. (USPN 6355116 B1).

Connor teaches a method of preparing a coated nickel-base superalloy article which is typically susceptible to the formation of a secondary reaction zone, the method comprising the steps of furnishing a Ni-base superalloy (paragraph 16), having thereon an initial Al-containing coating which conditions the substrate comprising an initial additive zone and initial diffusion zone (paragraphs 1, 2, 6, 9, 15 and 16), removing the initial coating to expose a newly exposed surface with no cold working by stripping (paragraphs 20, 21, 24 and 25) in an acid solution (paragraph 31) and depositing a subsequent (replacement) Al-containing coating (paragraphs 9 and 26-28). Stress is relieved through a series of heat treatments where undesirable intermetallic phases are dissolved. The article is heated with the subsequent Al coating to a reaction temperature for the reaction period of time (paragraph 31). However there is no disclosure of cold working.

Art Unit: 1725

Chen teaches a method for controlled removal of a coating on a Ni-based superalloy substrate (col 3 lines 38-51) by cold working (col 6 lines 18-28) in combination with chemical stripping (col 6 lines 33-36). The exposed area is then coated with a subsequent Al coating (col 8 lines 6-30). See also Chen claims 27 and 28.

It would have been obvious to one of ordinary skill in the art at the time of the invention that since the coating could be removed mechanically, chemically or by a combination of both, cold working is an obvious alternative to mechanical abrasion or grit blasting for removal (Connor, paragraphs 20, 25 and 31) where the working takes place before heat treatment (Connor, paragraphs 31).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kircher et al. (USPN 6036995, Ni superalloy, Al coating, acid removal, no Pt), Draghi et al. (USPN 6042879, Ni superalloy, stress relief, acid, Al coating, no Pt), Sangeeta et al. (US 2002/0094445 A1, Pt-Al coating, heat treat, Al coating), Murphy et al. (USPN 5695821, Rene 6 alloy, Ni-superalloy, Al coating, stress relief, heat treat), Walston et al. (USPN 5455120, Rene alloy compositions) and Walston et al. (USPN 5270123).

Art Unit: 1725

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (703) 306-5699. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-7115 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Lynne Edmondson
Examiner
Art Unit 1725

 

LRE
July 24, 2003